IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

SEAGEN INC., *Plaintiff,* v. DAIICHI SANKYO CO., LTD., *Defendant,* ASTRAZENECA PHARMACEUTICALS LP and ASTRAZENECA UK LTD., *Intervenor-Defendants.*	)	CASE NO. 2:20-cv-00337-JRG JURY TRIAL DEMANDED

ASTRAZENECA'S
ANSWER TO PLAINTIFF'S COMPLAINT

AstraZeneca Pharmaceuticals LP and AstraZeneca UK Limited (collectively "AstraZeneca"), by and through undersigned counsel, answer the Complaint[1] of Plaintiff Seagen Inc. ("Seagen") as follows. This document republishes the allegations from Seagen's Complaint, but for clarity, AstraZeneca does not adopt those allegations. AstraZeneca's responses follow each such allegation and are prefaced "ANSWER."

1. Seagen brings this action to protect its proprietary technology enabling the delivery of chemotherapeutic drugs directly to cancer cells. When Seagen began developing this technology, most chemotherapeutic drugs for cancer were not targeted, resulting in the delivery of treatments throughout the patient's body and causing significant adverse side effects. Since then, Seagen's pioneering innovations in the field of antibody-drug conjugates (ADCs), a type of

[1] AstraZeneca does not believe that this heading or any of the headings in Seagen's Complaint require a response. If a response is required, AstraZeneca denies each and any allegations, express or implied, in such headings.

therapy that directly targets chemotherapeutic drugs to cancer cells, have helped establish ADCs as an important pillar of cancer therapy. Seagen's ADC technology is the result of decades of research and development effort by Seagen's scientists and hundreds of millions of dollars of investment. Seagen's transformative innovations have maintained Seagen's leadership status even as other companies have entered the field, and Seagen's innovations are embodied in more approved ADC therapies than those of any other company. DSC is a new entrant in the ADC field, and it infringes Seagen's United States Patent No. 10,808,039 (the "'039 patent"). DSC has already booked tens of millions of dollars in sales of an infringing product, and appears intent upon expanding its infringing activities.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 1.

2. ADCs are specialized cancer treatments that use a "linker" to attach (or "conjugate") chemotherapeutic drugs to an antibody. The antibody in an ADC targets receptors on the surface of a cancer cell. The targeted cell then internalizes the ADC, releasing the ADC's chemotherapeutic drug to kill the cancer cell. This technology is cutting edge. To date, only nine ADCs have been approved by the FDA.

ANSWER: AstraZeneca admits that Seagen attempts to describe antibody-drug conjugates, but Seagen's description is very general, incomplete, and misleading. AstraZeneca further admits that Seagen attempts to allege that, as of the date of Seagen's Complaint, only nine antibody-drug conjugates have been approved by the FDA. However, it is not clear to which type of FDA approval Seagen's Complaint refers, so AstraZeneca denies this allegation. Except as admitted, AstraZeneca denies each and every allegation in Paragraph 2.

3. After its founding in 1998, Seagen pioneered a class of linkers with a cleavable amino acid unit for use in ADCs. This class is often referred to as "protease cleavable" because

specialized enzymes within the cell called "proteases" cleave the bonds of the amino acid unit to release the drug. After more than ten years of fundamental research, Seagen received FDA approval for its first ADC employing this technology, ADCETRIS®, in 2011. Of the nine, now-approved ADCs, more use Seagen's linker technologies than any other.

ANSWER: AstraZeneca admits that Seagen received a FDA approval in 2011 for the antibody-drug conjugate known as Adcetris®. Except as admitted, AstraZeneca denies each and every allegation in Paragraph 3.

4. All of the products in DSC's ADC pipeline also use a protease cleavable linker that is covered by the claims of Seagen's '039 patent. The currently accused product is DSC's DS-8201 ADC (now branded ENHERTU®), the first ADC in DSC's pipeline to be FDA approved. On January 6, 2020, DSC announced DS-8201's availability in the United States, noting that DSC would be solely responsible for manufacturing and supply. DSC causes DS-8201 to be imported into, offered for sale, sold, and used in the United States. DSC also ultimately books the United States sales of DS-8201, and these sales have totaled more than $70 million to date.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 4.

5. DSC may seek FDA approval for its other pipeline products covered by the claims of the '039 patent, including U3-1402, DS-1062, DS-7300, DS-6157, in the near future. Seagen intends by this Complaint that these products also be accused products should Seagen learn during the course of discovery that DSC has engaged in infringing activities as to these products.

ANSWER: AstraZeneca lacks knowledge or information sufficient to form a belief as to the truth of what Seagen intends by its Complaint and denies that allegation on that basis. AstraZeneca denies each and every remaining allegation in Paragraph

THE PARTIES

6. Plaintiff Seagen is a biotechnology company formerly known as Seattle Genetics, Inc. Seagen develops and commercializes transformative therapies targeting cancer. Seagen is headquartered in Bothell, Washington, and incorporated under the laws of Delaware.

ANSWER: AstraZeneca admits that Seagen is a biotechnology company formerly known as Seattle Genetics, Inc. On information and belief, AstraZeneca further admits that Seagen is a headquartered in Bothell, Washington, and is incorporated under the laws of Delaware. Except as admitted, AstraZeneca denies each and every allegation in Paragraph 6.

7. Defendant DSC is a Japanese pharmaceutical corporation having its principal place of business at 3-5-1, Nihonbashi Honchō, Chūo-ku, Tokyo 103-8426, Japan.

ANSWER: On information and belief, AstraZeneca admits that Daiichi Sankyo Company, Limited is a Japanese corporation with its principal place of business at 3-5-1, Nihonbashi, Honchō, Chūo-ku, Tokyo 103-8426, Japan.

JURISDICTION AND VENUE

8. This Court has subject matter jurisdiction under 28 U.S.C. 1331 and under 28 U.S.C. § 1400(b).

ANSWER: AstraZeneca denies each and every allegation in Paragraph 8.

9. This Court has personal jurisdiction over DSC, as DSC conducts business and has committed acts of patent infringement, induced acts of patent infringement, and contributed to patent infringement in the United States, the State of Texas, and the Eastern District of Texas.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 9.

10. DSC also has sufficient minimum contacts with the forum as a result of business it conducts within Texas and this district. DSC—directly or through subsidiaries or intermediaries

including distributors, retailers, and others—offers for sale, and sells (as well distributes, advertises, and markets) products, including DS-8201, that infringe the '039 patent throughout Texas and this district. For example, DSC owns the U.S. registration for the ENHERTU® trademark for DS-8201. DSC acts in concert with others to purposefully and voluntarily place the infringing products in a distribution chain that foreseeably leads to the infringing products being offered for sale, sold, and used in Texas and this district as part of the ordinary stream of commerce. DSC has done so with the expectation that these infringing products have been, and will continue to be, purchased in Texas and this district and that such purchases be part of the ordinary stream of commerce.

ANSWER: Daiichi Sankyo Japan owns the registration for the Enhertu® trademark for DS-8201. AstraZeneca denies the remaining allegations in Paragraph 10.

11. In addition, DSC's subsidiaries and contractual business partners have operated as agents of DSC as parts of a business group in which executives of DSC make important operational decisions regarding the manufacture, importation, offer for sale, sale, and intended use of the infringing products, including DS-8201. Through these agents, DSC has conducted business and committed acts of infringement in the United States, Texas, and this district.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 11.

12. Alternatively, to the extent that DSC is not subject to jurisdiction in any state court of general jurisdiction, this Court may exercise jurisdiction over DSC pursuant to Federal Rule of Civil Procedure 4(k)(2) because: (a) Seagen's claims arise under federal law; and (b) DSC has sufficient contacts with the United States as a whole, including but not limited to manufacturing the infringing products and importing them into the United States and offering for sale, selling,

and causing them to be sold in the United States, such that this Court's exercise of jurisdiction over DSC satisfies due process.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 12.

13. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1400(b) and 28 U.S.C. § 1391(c). DSC is a foreign corporation and may be sued in this district. Venue is further proper because DSC has committed acts of infringement in this district, and has purposely transacted business involving the infringing products in this district.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 13.

PATENT-IN-SUIT – U.S. PATENT NO. 10,808,039

14. Seagen is the sole owner of the '039 patent and holds the sole right to enforce it. The '039 patent claims priority to provisional applications filed on November 6, 2003, and March 26, August 4, and October 27, 2004. The inventors were all employees of Seagen at the time the priority applications were filed. Although the '039 patent issued recently, DSC has been aware of one or more parent applications of the '039 patent since at least 2008, and it has been aware of the specific application that issued as the '039 patent since at least June of this year. DSC also has notice of the '039 patent from the filing of this Complaint.

ANSWER: AstraZeneca lacks knowledge or information sufficient to form a belief as to the truth of Seagen's alleged ownership of the '039 patent and whether Seagen has the sole right to enforce it, and denies that allegation on that basis. AstraZeneca denies each and every remaining allegation in Paragraph 14.

15. The '039 patent claims technologies associated with ADCs. At the time of the invention, most therapeutics administered to patients to treat cancer—such as chemotherapeutic drugs—were not targeted to cancer cells, resulting in systemic delivery of the therapeutics to cells

and tissues of the body, including to healthy cells where they are unnecessary, often undesirable, and can cause considerable adverse side effects. In the late 1990s, custom designed antibodies were developed as targeted agents for the treatment of cancer and certain autoimmune diseases, but they, too, had limitations. Combining these antibodies with chemotherapy drugs to deliver them in a targeted fashion was under investigation as a next-generation technology, and chemotherapeutic drugs that bind tubulin (an important protein for cell division), bind DNA, or inhibit topoisomerases (enzymes involved in DNA replication and transcription) were known to be leading candidates. But linkers that would release drugs only in the target cells proved elusive. The first ADC to reach the market had to be withdrawn due to off-target effects thought to be caused by an unstable linker that disassociated before the ADC reached the intended target.

ANSWER: AstraZeneca admits that Seagen attempts to state what the '039 patent claims as well as a purported history of antibody-drug conjugate technology. Seagen's allegations, however, are incomplete, misleading, and unclear. Except as admitted, AstraZeneca denies each and every allegation in Paragraph 15.

16. Seagen's path-breaking work led to the development of protease-cleavable ADC linkers that were more stable (and thus more likely to deliver chemotherapeutic drugs to target cancer cells) than other linker types, and included research on a range of amino acid motifs that could be used in such linkers. Seagen also developed more predictable "cysteine" conjugation technology (technology which differs from the "lysine" conjugation technology favored by other companies), and technology for arriving at a desired drug-to-antibody ratio or "DAR" (a term that refers to the number of drug units linked to each antibody).

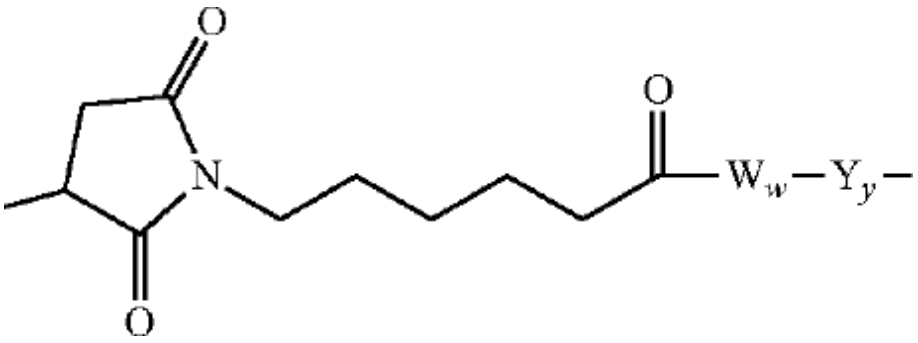
ANSWER: AstraZeneca denies each and every allegation in Paragraph 16.

ALLEGED INFRINGEMENT

17. The claims of the '039 patent are directed to antibody-drug conjugates comprising a protease cleavable linker of four amino acids in length, wherein each amino acid is either glycine or phenylalanine. The '039 patent is enforceable and valid, and DSC's ADC products fall within the scope of the patent rights provided by the claims of the '039 patent.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 17.

18. The claims of the '039 patent cover ADCs with linkers having the formula – Aa—Ww—Yy–, wherein Aa is a stretcher unit that bonds to a sulfur atom of the amino acid cysteine in the antibody, Ww is an amino acid unit, and Yy is a spacer unit between the amino acid unit and the drug. Independent claim 1 provides that the stretcher unit Aa is the maleimide maleimidocaproyl, or "mc," as shown in the diagram below.



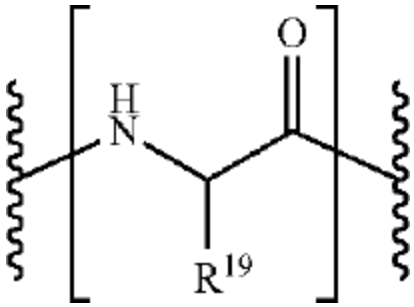
ANSWER: AstraZeneca denies each and every allegation in Paragraph 18.

19. Claim 1 further provides that the amino acid unit W_w is a tetrapeptide of four amino acids in length, with each amino acid having the formula shown below in which R_{19} is either hydrogen (i.e., the amino acid glycine, or "G") or benzyl (i.e., the amino acid phenylalanine, or "F"):

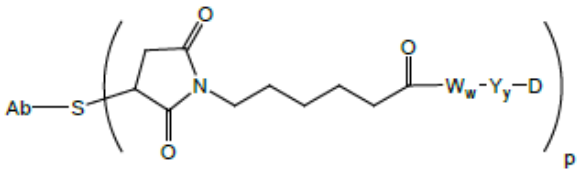
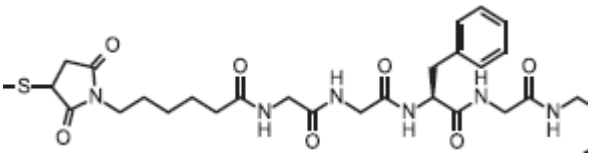
ANSWER: AstraZeneca denies each and every allegation in Paragraph 19.

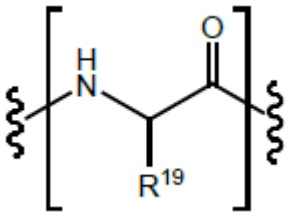
20. Claim 4, which includes the limitations of claims 1, 2, and 3, and the claims that depend from claim 4, are exemplary on the issue of infringement. DSC's ADCs with this linker

infringe Claim 4 because they comprise a maleimidocaproyl stretcher unit that bonds to a sulfur atom of the amino acid cysteine in the antibody, a tetrapeptide amino acid unit with the amino acid motif GGFG, and a self-immolative spacer unit. The drug-to-antibody ratio for these ADCs is about 3 to about 8. The chart below provides more



detail regarding how DS-8201 infringes claim 4. U3-1402, DS-1062, DS-7300, DS-6157 all use the same linker as DS-8201.

Claim 4	DS-8201
1. An antibody-drug conjugate having the formula:  or a pharmaceutically acceptable salt thereof, wherein:	DS-8201 is an antibody-drug conjugate. In DS-8201, the payload drug is conjugated to the antibody using a linker that has the claimed formula, including a stretcher unit mc, an amino acid unit W_w with the tetrapeptide motif GGFG, and an aminomethylene spacer unit Y_y: 
Ab is an antibody,	In DS-8201, the antibody to which drugs are conjugated is trastuzumab.

S is sulfur,	In DS-8201, the linker's stretcher unit mc bonds to sulfur atoms on cysteine residues of the antibody.
each -W_w- unit is a tetrapeptide; wherein each –W– unit is independently an Amino Acid unit having the formula denoted below in the square bracket:  , wherein R^{19} is hydrogen or benzyl,	In DS-8201, the linker has an amino acid unit with the tetrapeptide motif GGFG. Glycine, or G, corresponds with the claimed amino acid formula wherein R^{19} is hydrogen. Phenylalanine, or F, corresponds with the claimed amino acid formula wherein R^{19} is benzyl.
Y is a Spacer unit,	In DS-8201, the linker has an aminomethylene spacer unit.
y is 0, 1 or 2,	In DS-8201, there is one spacer, so y is 1.
D is a drug moiety, and	In DS-8201, the drug that is conjugated to the antibody with the linker is the camptothecin derivative DXd, which acts as a topoisomerase inhibitor.
p ranges from 1 to about 20, and	In DS-8201, the value of p, which represents drug loading in terms of the drug-to-antibody ratio or "DAR", is about 7.7.
wherein the S is a sulfur atom on a cysteine residue of the antibody, and	In DS-8201, the linker's stretcher unit mc bonds to sulfur atoms on cysteine residues of the antibody.

wherein the drug moiety is intracellularly cleaved in a patient from the antibody of the antibody-drug conjugate or an intracellular metabolite of the antibody- drug conjugate.	DS-8201's linker is cleaved within the cell by proteases to release the camptothecin derivative drug DXd.
2. The antibody-drug conjugate of claim 1, wherein Y is a self-immolative spacer.	In DS-8201, the linker's aminomethylene spacer unit is self-immolative.
3. The antibody-drug conjugate of claim 2, wherein y is 1.	In DS-8201, there is one spacer, so y is 1.
4. The antibody-drug conjugate of claim 3, wherein p is about 3 to about 8.	In DS-8201, the value of p, which represents drug loading in terms of the drug-to-antibody ration or "DAR", is about 7.7.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 20.

COUNT I

21. Seagen hereby restates and re-alleges the allegations set forth in paragraphs 1 through 20 above and incorporates them by reference.

ANSWER: AstraZeneca repeats and realleges its answers and denials to the preceding Paragraphs as if fully set forth here.

22. DSC has been and is now directly infringing, contributing to infringement, and inducing others to infringe the '039 patent in this district and elsewhere in violation of 35 U.S.C. § 271 at least by making, using, selling, offering to sell, and importing into the United States ADC products, including DS-8201, that meet the limitations of one or more claims of the '039 patent.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 22.

23. DSC has committed infringing acts without the permission, consent, authorization, or license of Seagen.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 23.

24. DSC's infringement is literal or under the doctrine of equivalents, or both.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 24.

25. DSC, in addition to its own direct infringement, is currently actively inducing and encouraging infringement of the '039 patent, and will continue to actively induce and encourage infringement of the '039 patent. DSC has known of the '039 patent at least since the time of Seagen's transmittal of this Complaint to DSC, and had prior knowledge of the application from which it issued. DSC nevertheless actively encourages others to infringe the '039 patent such as by promoting and encouraging the use of the infringing products, including DS-8201. DSC knowingly induces infringement by others, including importers, manufacturers, sellers, and users of the infringing products, including DS-8201. These facts give rise to a reasonable inference that DSC knowingly induces others, including importers, manufacturers, sellers, and users, to directly infringe the '039 patent, and that DSC possesses a specific intent to cause such infringement. Importers, manufacturers, sellers, and users of the infringing products directly infringe the '039 patent.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 25.

26. DSC also contributes to infringement of the '039 patent by manufacturing, offering to sell, or selling within the United States or importing into the United States components of the infringing products, including linkers such as those found in DS-8201, while having knowledge of the '039 patent and knowledge that these components are especially made or especially adapted for use in products that infringe the '039 patent. These components are not staple articles or commodities of commerce suitable for substantial noninfringing uses. Importers, manufacturers, sellers, and users of the infringing products including these components directly infringe the '039 patent.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 26.

27. DSC's infringement has been willful. DSC had knowledge of the parent applications of the '039 patent, including the application that issued as the '039 patent and its published claims, before the filing of this Complaint. DSC has proceeded to make, use, offer for sale, sell, and import the infringing products, including DS-8201, despite knowing that the products would infringe the '039 patent, and DSC have continued to make, use, offer for sale, sell, and import the infringing products, including DS-8201, since the filing of this Complaint. DSC was also generally aware of Seagen's linker technology, inquired about it, and directly compared it to the linkers in DSC's infringing products, including DS-8201, in articles, analyses, and presentations. For these and other reasons, DSC's infringing acts have been egregious.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 27.

28. As a direct and proximate result of DSC's infringement of the '039 patent, Seagen has suffered, and will continue to suffer damages, including lost profits.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 28.

29. Seagen has also suffered damages from DSC's infringement of Seagen's provisional rights in the '039 patent, as DSC was on notice of the published patent application for the '039 patent and the issued claims are substantially identical to claims in the published application.

ANSWER: AstraZeneca denies each and every allegation in Paragraph 29.

PRAYER FOR RELIEF

AstraZeneca denies that Seagen is entitled to any relief from AstraZeneca or the Court, either as prayed for in the Complaint or otherwise. AstraZeneca has not infringed, either directly or indirectly, any valid and enforceable claim of the patent-in-suit, and Seagen is not entitled to

any remedy or recovery. To the extent paragraphs A-F under Plaintiff's Prayer for Relief are interpreted to contain any factual allegations, AstraZeneca denies them.

DEFENSES

AstraZeneca asserts the following defenses. In doing so, AstraZeneca does not assume the burden of proof for matters for which Seagen bears the burden. AstraZeneca also reserves all rights to allege additional defenses that become known during the litigation.

First Defense
(Non-Infringement)

AstraZeneca does not infringe and has not infringed (directly, indirectly, literally or under the doctrine of equivalents) a valid and enforceable claim of the '039 patent.

Second Defense
(Invalidity)

The claims of the '039 patent are invalid and/or unenforceable for failure to satisfy one or more of the patentability conditions set forth in Title 35 of the U.S. Code, including but not limited to 35 U.S.C. §§ 101, 102, 103, and 112.

Third Defense
(Limitation of Damages)

Seagen's claims for damages, costs, or attorneys' fee, if any, against AstraZeneca for alleged patent infringement is limited by 35 U.S.C. §§ 286 and/or 288.

Fourth Defense
(Prosecution Laches)

The claims of the '039 patent are unenforceable and Seagen's claims for relief are barred by the equitable doctrine of prosecution laches due to Seagen's unreasonable and unexplained delay in the prosecution of the '039 patent.

Fifth Defense
(Estoppel, Waiver, and Unclean Hands)

Seagen's claims for relief are barred, in whole or in part, by the equitable doctrines of estoppel, waiver and/or unclean hands.

Sixth Defense
(Prosecution History Estoppel)

Seagen's infringement claims are barred by the doctrine of prosecution history estoppel based on statements, representations, and admissions made during the prosecution of the patent application resulting in the '039 patent.

Seventh Defense
(No Exceptional Case)

Seagen pleaded no valid basis for finding an exceptional case under 35 U.S.C. §285.

Eighth Defense
(Safe Harbor)

AstraZeneca's alleged activities with regard to Daiichi Sankyo Japan's "pipeline products" that Seagen identifies in its Complaint—U3-1402, DS-1062, DS-7300, and DS-6157, do not constitute infringement as a matter of law under 35 U.S.C. § 271(e)(1).

RESERVATION OF RIGHTS

Defendant reserves the right to assert any additional defenses, as they become known during the course of this action, or to the extent they are not otherwise deemed affirmative defenses by law.

PRAYER FOR RELIEF

WHEREFORE, AstraZeneca prays for judgment that:

A. Seagen's Complaint be dismissed in its entirety with prejudice;

B. Seagen is not entitled to any relief prayed for in its Complaint, or to any relief whatsoever;

C. AstraZeneca has not infringed any valid and enforceable asserted claim of the ’039 patent;

D. Each asserted claim of the ’039 patent is invalid and/or unenforceable;

E. No damages or royalties are due or owing for any of the acts alleged by Seagen in its Complaint;

F. The claims of the ’039 patent are unenforceable due to the equitable doctrine of prosecution laches;

G. AstraZeneca be awarded its costs, disbursements, and reasonable attorneys’ fees pursuant to 35 U.S.C. § 285 as against Seagen; and

H. AstraZeneca be granted such other and further relief as the Court may deem just and proper.

JURY DEMAND

AstraZeneca demands a trial by jury of all issues triable in this action.

Dated: July 29, 2021

Respectfully submitted,

/s/ Jennifer Parker Ainsworth
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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was filed electronically in compliance with Local Rule CV-5(a). As such, this motion was served on all counsel who have consented to electronic service, Local Rule CV-5(a)(3), on this the 29th day of July, 2021.

/s/ Jennifer P. Ainsworth
Jennifer P. Ainsworth